CLAIMS

What is claimed is:

1. An infrared oven, comprising:

an oven housing;

an oven chamber adapted for receiving a food, the oven chamber located within the oven housing;

at least one first infrared heater located inside of the oven chamber and positioned to be on one side of the food; and

at least one second infrared heater located inside of the oven chamber and positioned to be on another side of the food;

wherein the at least one first and the at least one second infrared heaters emit radiant heat at a desired infrared wavelength for cooking the food.

2. The infrared oven of claim 1, further comprising:

a first radiant heat reflector located between an inside wall of the oven chamber and the at least one first infrared heater; and

a second radiant heat reflector located between another inside wall of the oven chamber and the at least one second infrared heater.

3. The infrared oven of claim 2, wherein the first and the second radiant heat reflectors reflect radiant heat from the at least one first infrared heater and the at least one second infrared heater, respectively, to the food.

4. The infrared oven of claim 3, wherein the reflected radiant heat is at longer infrared wavelengths than the infrared wavelengths of the radiant heat from the at least one first infrared heater and the at least one second infrared heater.

5. The infrared oven of claim 3, wherein the first and second radiant heat reflectors are optimized to evenly distribute radiant heat to the food being cooked.

6. The infrared oven of claim 1, wherein the oven chamber has a shelf that is adapted to hold the food between the at least one first and the at least one second infrared heaters.

7. The infrared oven of claim 1, wherein the oven chamber has a rack that is adapted to hold the food between the at least one first and the at least one second infrared heaters.

8. The infrared oven of claim 1, wherein the oven chamber has a tray that is adapted to hold the food between the at least one first and the at least one second infrared heaters.

9. The infrared oven of claim 1, wherein a door is attached to the oven housing and allows access to the oven chamber.

10. The infrared oven of claim 1, wherein each of the at least one first and the at least one second infrared heaters is an electrically conductive filament adapted to pass a desired amount of electric current therethrough.

11. The infrared oven of claim 10, wherein at least one of the electrically conductive filaments is comprised of a composition of nickel (Ni) and iron (Fe).

12. The infrared oven of claim 10, wherein at least one of the electrically conductive filaments are comprised of a composition of nickel (Ni) and chromium (Cr).

13. The infrared oven of claim 10, wherein at least one of the electrically conductive filaments is comprised of a composition of nickel (Ni), chromium (Cr) and iron (Fe).

14. The infrared oven of claim 10, wherein at least one of the electrically conductive filaments is comprised of a composition of iron (Fe), chromium (Cr) and aluminum (Al).

15. The infrared oven of claim 10, wherein at least one of the electrically conductive filaments is comprised of tungsten.

16. The infrared oven of claim 1, wherein at least one of the at least one first and the at least one second infrared heaters comprise an electrically conductive filament inside of a quartz glass tube.

17. The infrared oven of claim 16, wherein the quartz glass tube is clear.

18. The infrared oven of claim 16, wherein the quartz glass tube is chemically etched so as to pass a desired infrared wavelength from the electrically conductive filament.

19. The infrared oven of claim 16, wherein the quartz glass tube has extruded grooves therein so as to pass a desired infrared wavelength from the electrically conductive filament.

20. The infrared oven of claim 1, wherein total power drawn by the at least one first and the at least one second infrared heaters does not exceed 1500 watts.

21. The infrared oven of claim 1, wherein the infrared wavelength is from about 1 to about 3 microns.

22. The infrared oven of claim 1, wherein the infrared wavelength is from about 1.5 to about 2.5 microns.

23. The infrared oven of claim 1, wherein the infrared wavelength is about 1.63 microns for the at least one first infrared heater and the infrared wavelength is about 2.11 microns for the at least one second infrared heater.

24. The infrared oven of claim 1, wherein the infrared wavelength comprises a plurality of infrared wavelengths.

25. The infrared oven of claim 16, further comprising a gold coating over a portion of the quartz glass tube, wherein the gold coated portion is on the distal side of the quartz glass tube from the food.

26. The infrared oven of claim 1, further comprising a user interface for controlling cooking of the food.

27. The infrared oven of claim 1, further comprising a grilling plate for grilling the food.

28. The infrared oven of claim 1, further comprising a rotisserie adapted for cooking the food in the oven chamber.

29. The infrared oven of claim 1, further comprising a digital processor for controlling the at least one first infrared heater and the at least one second infrared heat.

30. The infrared oven of claim 29, wherein the digital processor independently controls the at least one first infrared heater and the at least one second infrared heat.

31. The infrared oven of claim 29, wherein the digital processor is selected from the group consisting of microprocessor, microcontroller, application specific integrated circuit (ASIC), and field programmable gate array (FPGA).

32. The infrared oven of claim 29, further comprising a user interface coupled to the digital processor.

33. The infrared oven of claim 32, wherein the user interface is used to input food choices for cooking the food from cooking routines stored in the digital processor.

34. The infrared oven of claim 33, wherein the cooking routines are selected from the group consisting of heating, cooking, browning, toasting, baking, broiling and defrosting.

35. The infrared oven of claim 33, wherein the food is selected from the group consisting of steak, hamburger, pizza, pasta, dinner rolls, bread, toast, cookies, pies, turkey, chicken, pot roast, pork, tofu, meatloaf, vegetables, and pastries.

36. The infrared oven of claim 1, wherein the position on the one side is above the food and the position on the another side is below the food.

37. A method for cooking a food with infrared radiant heat, said method comprising the steps of:

cooking a food located in an oven chamber with radiant heat at a first infrared wavelength emitted from at least one first infrared heater located on one side of the food; and

radiant heat at a second infrared wavelength from at least one second infrared heater located on another side of the food.

38. The method of claim 37, wherein the second infrared wavelength is longer than the first infrared wavelength.

39. The method of claim 38, wherein the radiant heat at the second infrared wavelength penetrates deeper into the food than the radiant heat at the first infrared wavelength.

40. The method of claim 38, wherein the radiant heat at the second infrared wavelength evaporates the moisture from the food faster than the radiant heat at the first infrared wavelength.

41. The method of claim 38, wherein the radiant heat at the second infrared wavelength more deeply cooks the food faster than the radiant heat at the first infrared wavelength.

42. The method of claim 38, wherein the radiant heat at the first infrared wavelength browns the food surface.

43. The method of claim 37, further comprising the step of defrosting the food with the radiant heat.

44. The method of claim 37, further comprising the steps of:

reflecting radiant heat from the at least one first infrared heater onto the food with a first radiant heat reflector; and

reflecting radiant heat from the at least one second infrared heater onto the food with a second radiant heat reflector.

45. The method of claim 44, wherein the infrared wavelengths of the reflected radiant heat are longer than the infrared wavelengths from the first and second infrared heaters.

46. The method of claim 44, further comprising the step of reflecting radiant heat from the radiant heat reflectors onto the food at a third and fourth plurality of infrared wavelengths.

47. The method of claim 37, further comprising the step of emitting radiant heat from the at least one first infrared heater onto the food at a first plurality of infrared wavelengths.

48. The method of claim 37, further comprising the step of emitting radiant heat from the at least one second infrared heater onto the food at a second plurality of infrared wavelengths.

49. The method of claim 37, wherein the first infrared wavelength is selected for substantially optimum browning of the food.

50. The method of claim 37, wherein the second infrared wavelength is selected for substantially optimum internal cooking of the food.

51. The method of claim 37, wherein the first infrared wavelength is from about 1 to about 3 microns.

52. The method of claim 37, wherein the first infrared wavelength is from about 1.5 to about 2.5 microns.

53. The method of claim 37, wherein the first infrared wavelength is about 1.63 microns.

54. The method of claim 37, wherein the second infrared wavelength is about 2.11 microns.

55. The method of claim 37, wherein the first infrared wavelength comprises a first plurality of infrared wavelengths.

56. The method of claim 37, wherein the second infrared wavelength comprises a second plurality of infrared wavelengths.

57. The method of claim 37, further comprising the step of providing a user interface having cooking routines stored for selection by a user when cooking a respective food.

58. A system for cooking food with radiant heat using at least two infrared wavelengths, said cooking system comprising:

an infrared oven housing;

an oven chamber adapted for receiving a food, the oven chamber located within the oven housing;

at least one first infrared heater located inside of the oven chamber and positioned to be on one side of the food;

at least one second infrared heater located inside of the oven chamber and positioned to be on another side of the food;

a first radiant heat reflector located between an inside wall of the oven chamber and the at least one first infrared heater; and

a second radiant heat reflector located between an inside wall of the oven chamber and the at least one second infrared heater;

wherein the at least one first and the at least one second infrared heaters emit radiant heat at different infrared wavelengths for cooking the food.

59. The system of claim 58, further comprising a user interface having cooking routines stored for selection by a user when cooking a respective food.

60. The system of claim 59, wherein the user interface independently controls the at least one first infrared heater and the at least one second infrared heater.

61. The infrared oven of claim 1, wherein the at least one first and the at least one second infrared heaters emit radiant heat at different infrared wavelengths.

62. The infrared oven of claim 1, wherein the at least one first and the at least one second infrared heaters emit radiant heat at a plurality of different infrared wavelengths.

63. The infrared oven of claim 29, wherein the digital processor controls a rotisserie adapted for cooking the food in the oven chamber.

64. The infrared oven of claim 1, further comprising a coated portion of at least one inner surface of the oven chamber for reflecting a desired infrared wavelength.

65. The infrared oven of claim 9, further comprising a coated portion of an inner surface of the door for reflecting a desired infrared wavelength.

66. The infrared oven of claim 1, further comprising a coated portion of at least one inner surface of the oven chamber for retaining heat from the at least one first infrared heater and thereby re-radiating the retained heat.

67. The infrared oven of claim 1, further comprising a coated portion of at least one inner surface of the oven chamber for retaining heat from the at least one second infrared heater and thereby re-radiating the retained heat.

68. The infrared oven of claim 1, further comprising at least a portion of at least one inner surface of the oven chamber is coated with ceramic.

69. The infrared oven of claim 1, further comprising at least a portion of at least one inner surface of the oven chamber is coated with porcelain.

70. The infrared oven of claim 1, wherein the infrared wavelength is about 1.65 microns for the at least one first infrared heater and the infrared wavelength is about 2.05 microns for the at least one second infrared heater.